GENE TECHNO SCIENCE

Mothers
Security Code：4584

Gene Techno Science Co., Ltd.

Financial Results for 2Q/FY2018
(Fiscal Year Ending March 2019)

November 6, 2018

Cautionary Statement

This information material is provided for understanding Gene Techno Science (“GTS”), not for soliciting investment in GTS shares.

Information provided in this material may contain so-called “forward-looking statements.” These statements are based on current expectations, forecasts and assumptions that are subject to risks and uncertainties, which could cause actual outcomes and results to differ materially from these statements. Risks and uncertainties include success rate of R&D projects, new regulations and rules, relations with partners in the future, etc.

This material includes information on pharmaceutical products and regenerative medicine (or related products), etc., which is being developed or launched. However, this is not intended to promote our products or provide medical advices.

Our Strategic Direction

GTS 3.0

Biotech Engineering Company, striving for value creation

Explore new business opportunities by providing a healthcare solution for the therapeutic areas where a current solution is insufficient

－Aiming at providing comprehensive healthcare solutions for patients as well as families and caregivers－

Our Focus

- Pediatric disease (including juvenile one)
- Rare disease
- Intractable disease
- Asia-endemic disease

Summary of 2Q FY2018

Financial Highlight

- 2Q was in line with the forecast.
- Timing of shipment of filgrastim biosimilar was delayed compared with the last fiscal year. No impact on FY18 forecasts.

Business Highlight

- Submission of New Drug Application in Japan of Darbepoetin alfa Biosimilar.
- Filing of International/PCT patent application of Anti-RAMP2 antibodies which inhibit the formation of new blood vessels with a new mechanism.
- Initiation of collaborative research with three companies to develop high-yield protein producing cell lines for biologics including biosimilars.

Financial Results for 2Q/FY2018

	Sales (in millions of yen)	Selling, general and administrative expenses		Operating profit (in millions of yen)	Ordinary profit (in millions of yen)	Net income for the year (in millions of yen)	Net income per share (in yen) *
		Total	R&D expenses included				
Results for 2Q/FY2018 (A)	**288**	**502**	**(285)**	**△291**	**△301**	**△347**	**△18.08**
Results for 2Q/FY2017 (B)	**446**	**724**	**(500)**	**△431**	**△427**	**△428**	**△22.38**
Change (A-B)	**△158**	**△222**	**(215)**	**140**	**126**	**81**	
(Reference) Forecasts for FY2018	**1,060**		**1,300**	**△1,180**	**△1,180**	**△1,182**	

Key points

1. Steady earnings

- Due to timing of shipment, Filgrastim biosimilar sales decreased vs. PY, but, no changes on FY18 forecasts.
- Milestone revenue in biosimilars portfolio was recorded.

2. Steady progress of development

R&D spending was mainly on the biosimilar operations.
(Development is going smoothly)

3. SG&A expenses on schedule

Special payment in relation to the retirement of GTS chairman (45 million yen: extraordinary loss)

The company split each share into two shares on July 1, 2018. Net income per share for the quarter is calculated based on the assumption that the split was conducted at the beginning of FY2018.

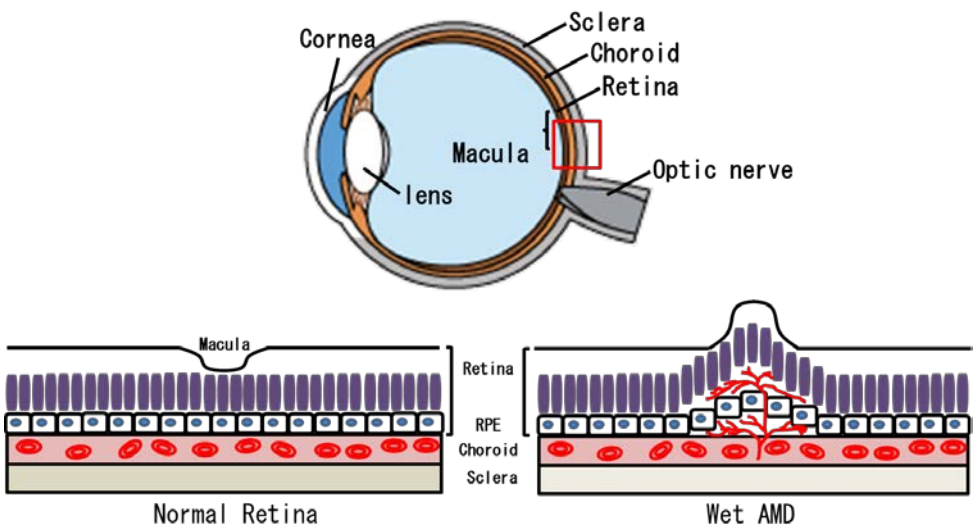
Filing of International/PCT patent application of Anti-RAMP2 antibodies

Filed international/PCT patent application for Anti-RAMP2 antibodies which could show positive therapeutic effect with a different mechanism from currently available VEGF inhibitors

Currently available VEGF inhibitors (angiogenesis inhibitors)			FY2017 Sales (oku-yen)*	
			Japan	Global
Anti-Age-related macular degeneration	Lucentis	(Novartis/Alcon, etc.)	233	3,500
	Eylea	(Bayer/Santen, etc.)	600	7,000
Anti-cancer	Avastin	(Chugai, etc.)	931	7,500

* Based on each company's financial statement

Wet age-related macular degeneration (wet AMD)



- One of the causes for blindness of the elderly
- Number of Patients in Japan: 690,000

A drug with new mechanism is necessary as there is a high risk for recurrence with currently available drug

Recurrence rate
69.6% (Lucentis)
68.8% (Eylea)

Source:
J. Ocul. Pharmacol. Ther., 33 (6), 445 (2017)

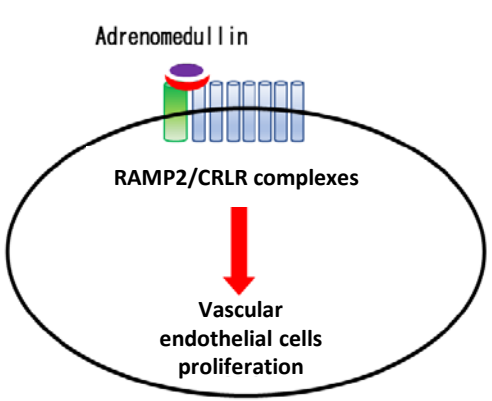
Filing of International/PCT patent application of Anti-RAMP2 antibodies

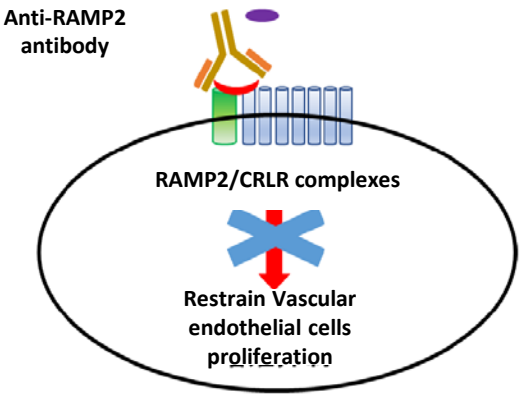
What is RAMP2 ?

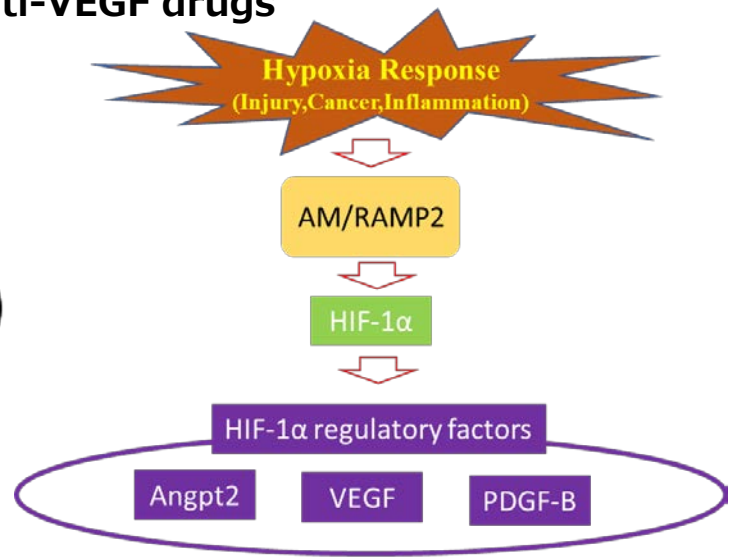
- Receptor activity modifying protein which forms complexes with G protein-coupled receptors existing on cell surface and delivers neovascularization signal by binding adrenomedullin, a peptide that has variety of bioactivities such as formation of blood vessels
- There is a report that AM could be positioned on an upper stream of VEGF in neovascularization signaling pathways

(Reference : *Scientific Report*, Jan 16;7, 40524 (2017))

Anti-RAMP2 antibodies could show efficacy to the patients whose response to anti-VEGF drug is limited and/or relapsed patients after anti-VEGF drug treatment in addition to the patients treated by anti-VEGF drugs







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Business Highlight

Collaborative research for establishing a platform to develop high-yield protein producing cell lines (chromocenter、SOLA Biosciences, LLC、GPC laboratory)

- Establish a platform for high-yield protein producing cell lines
- Maximizing the value by integrating the outcome from collaborative research with three companies

①Collaborative research

Aiming for a new technology platform by integrating each company's technology and GTS's antibody technology

- ✓ chromocenter's Artificial Chromosome Vector technology
- ✓ SOLA's Tapboost® technology
- ✓ GPC's high functional factor

②Platform technology

Positive impact from high-yield protein producing cell lines

- ✓ Increase production volume of drug substance
- ✓ Decrease manufacturing cost
- ✓ Enhance efficiency of manufacturing process
- ✓ Strengthen price competitiveness
- ✓ Improve success probability of partnering

③Competitive advantage

Creation of advantages for biologics commercialization

Secure competitive advantage by leveraging this technology for GTS ongoing pipeline products, new biologics and biosimilars

Aim for creating super-high-yield protein producing cell lines by integrating research output of three companies

Chromocenter

Increase protein production
＝volume increase/
efficiency improvement

SOLA Biosciences

Improve efficiency of cell functionality
=reduction of defects during manufacturing process

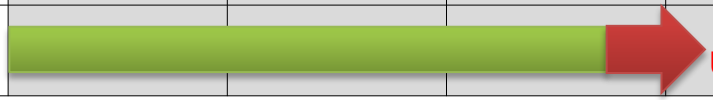
GPC laboratory

Excrete produced protein from the cell
＝Enhancement of distribution efficiency

Progress in each pipeline

(1) Biosimilars Business

Development code	Target disease	R&D	Clinical trial		Application submitted/reviewed Approved/marketed	Affiliates
			Phase I	Phase III		
GBS-001 Filgrastim	Cancer					Fuji Pharma Co., Ltd. Mochida Pharmaceutical Co., Ltd.
GBS-004 Bevacizumab	Cancer					
GBS-005 Adalimumab	Immunological diseases					Terminating an agreement with Changchun Changsheng Life Sciences Limited (China) and searching new partners
GBS-007	Ophthalmic diseases					Senju Pharmaceutical Co., Ltd.
GBS-008 Palivizumab	Infectious diseases					
GBS-010 Pegfilgrastim	Cancer					
GBS-011 Darbepoetin alfa	Kidney disease				UPDATE!!	Sanwa Kagaku Kenkyusho Co., Ltd.



***New Drug Application in Japan of Darbepoetin alfa Biosimilar was submitted on September 28th, 2018**

Progress in each pipeline

(2) New biologics business

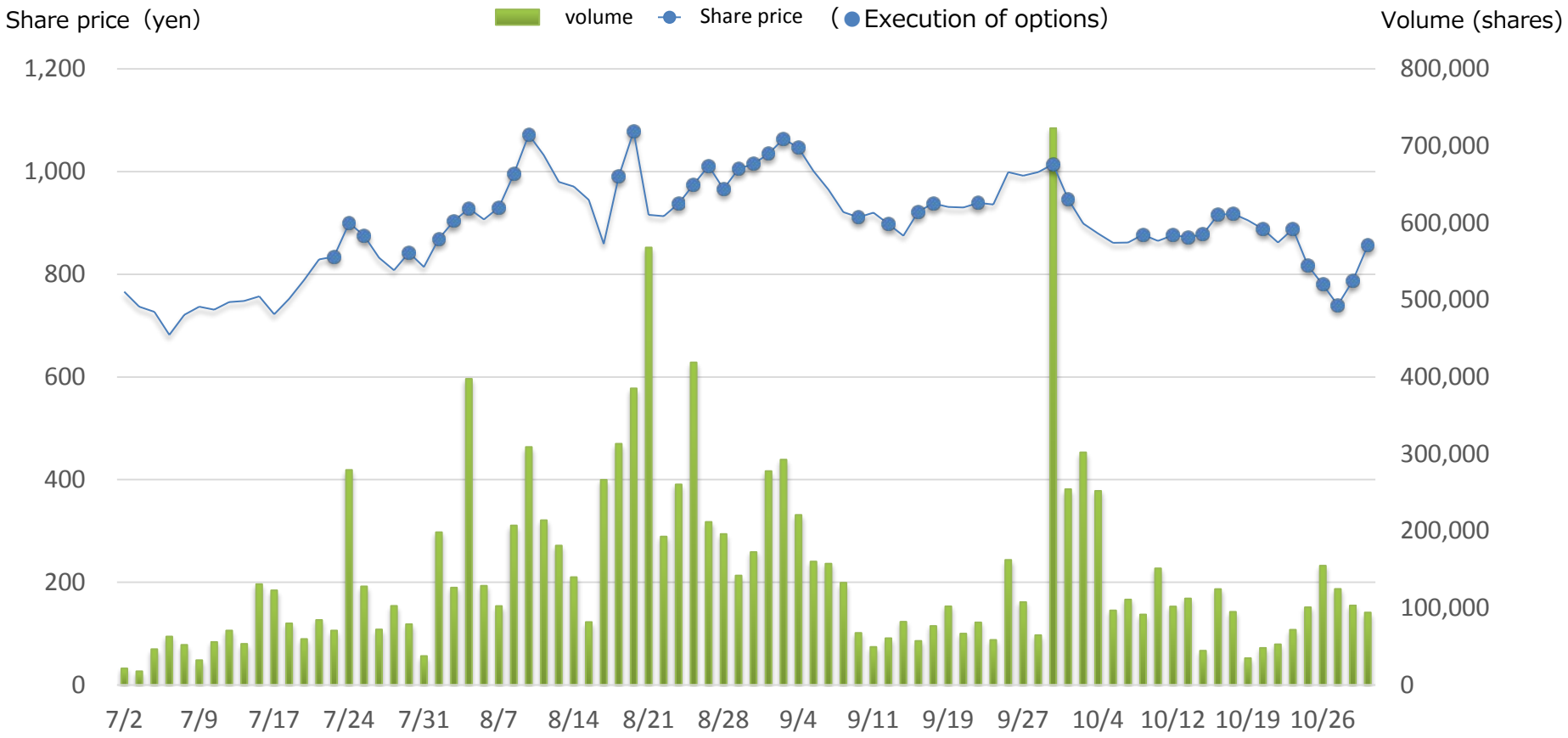
Development code	Target disease	Basic research	R&D	Clinical trial			Application submitted/reviewed Approved/marketed	Affiliates
				Phase I	Phase II	Phase III		
GND-001 Anti-human α9 integrin antibody	Immunological diseases, cancer							Kaken Pharmaceutical Co., Ltd.
GND-004 Anti-RAMP2 Antibody	Ophthalmic diseases, cancer							Searching partners
GND-007	Immunological diseases							

(3) New biotech business (regenerative medicine)

Product	Target area	Basic research	Clinical trial	Approval on condition/term *	Sold at a market (Review effectiveness and further safety after sale)	Approved	Sales continue	Collaborating company/institution
Cardiac stem cells	Improvement of heart functions							Japan Regenerative Medicine Co., Ltd.
Immunologic tolerance induction	Auto immune diseases Organ transplants, allergies							Juntendo University JUNTEN BIO
Bone marrow mesenchymal stem cells	diabetic nephropathy							Sapporo Medical University Minerva Medica Co., Ltd.

* An approval system that encourages faster commercial viability of regenerative drug products.
The process in which a patient receives an explanation about the risks, and with the agreement of the patient, the medicine is used. After the launch, safety measures will be taken.

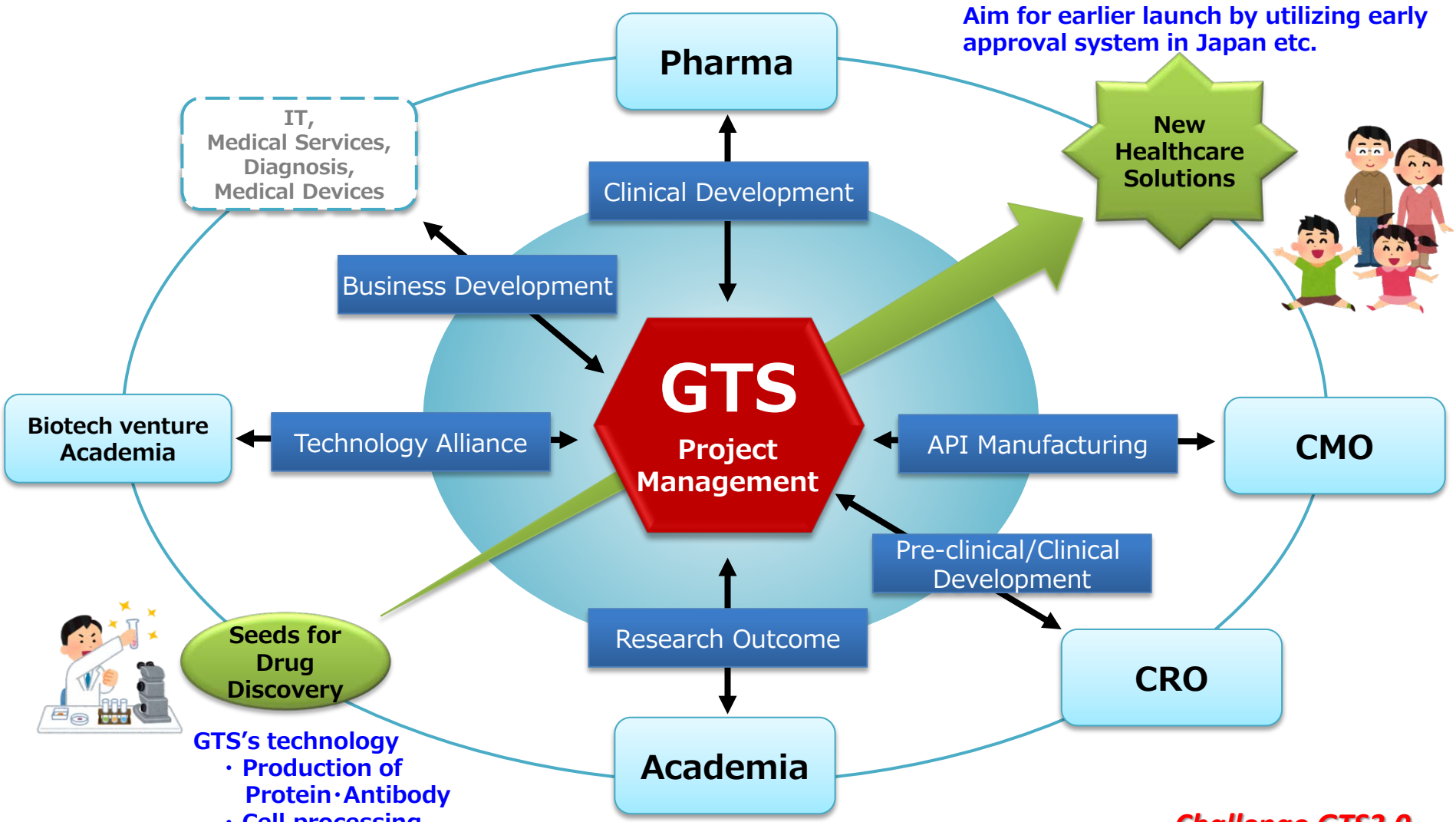
Financing Status (as of end October, 2018)



Accumulated # of executed options & shares	2,169 options	433,800 shares	(Execution Ratio 14.46%)
Remaining # of options and shares	12,831 options	2,566,200 shares	
Total cash received	377,239,280 yen		

Driving GTS3.0

Pursue technology alliance with biotech ventures as well as seek and leverage seeds from academia actively



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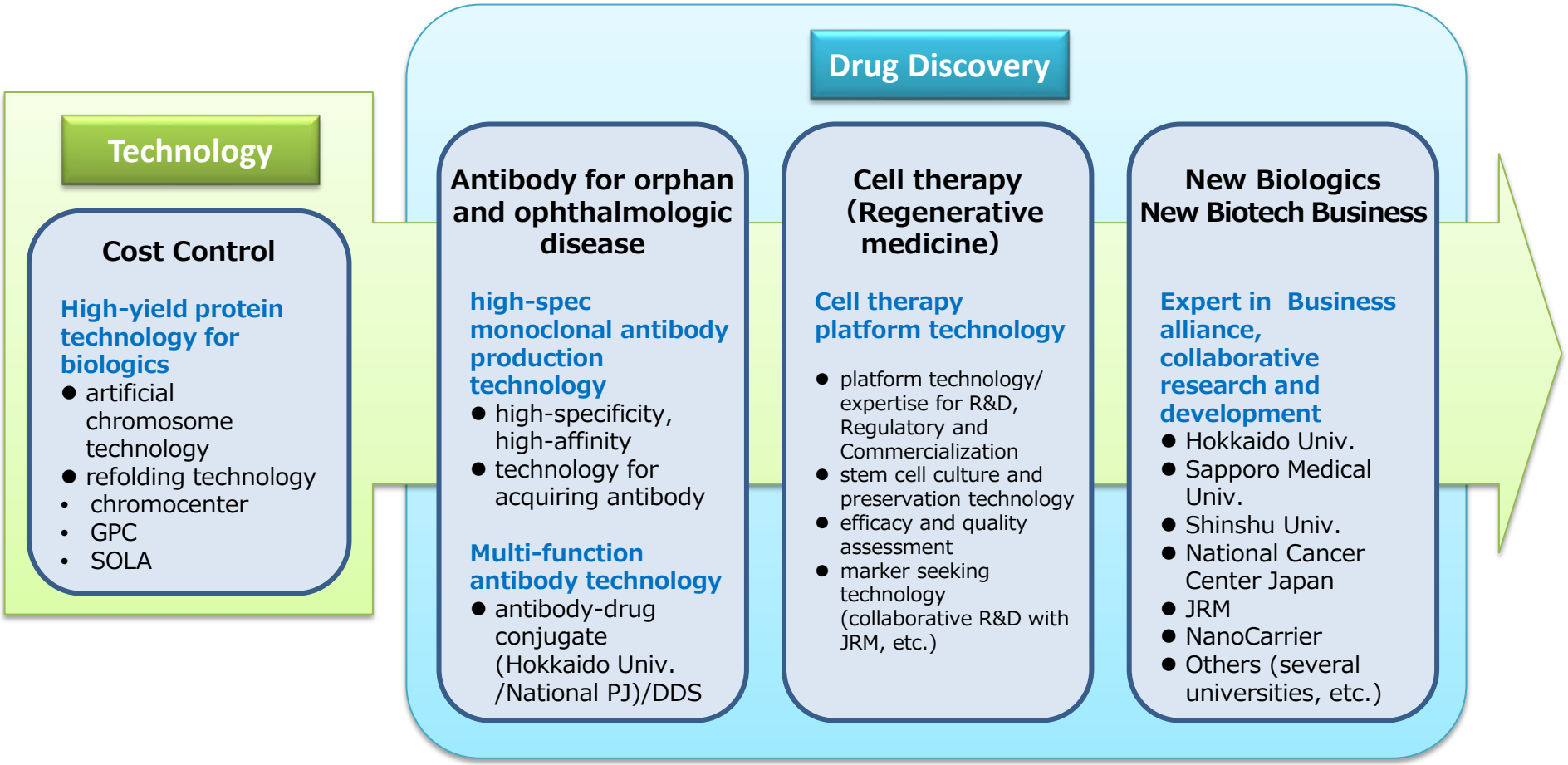
Our assets underpinning GTS3.0

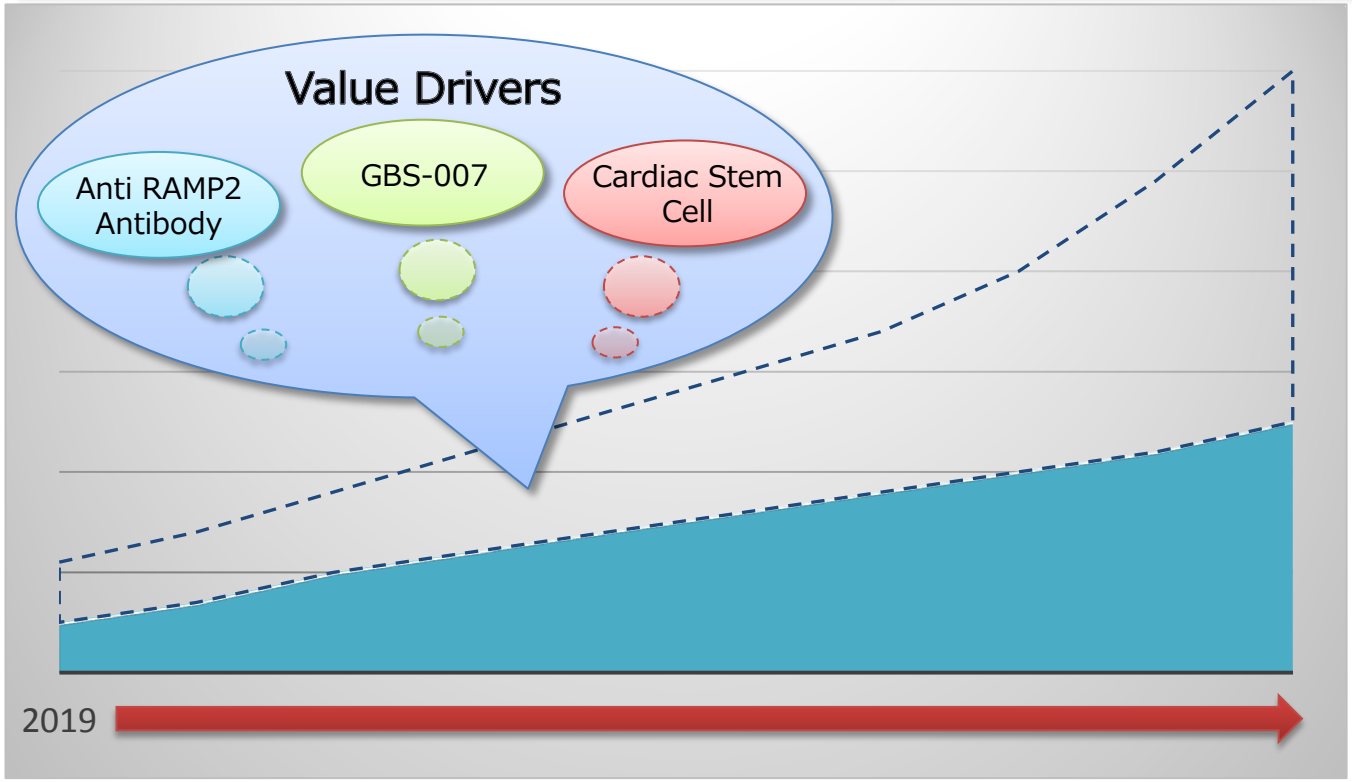
- ✓ Experience, expertise and know-how in R&D, Manufacturing and Marketing Authorization application of biologics
- ✓ Biological Assessment Technology : cell culture／cell assessment／pathological animal model creation and assessment
- ✓ Drug efficacy, pharmacological, safety assessment



Accelerating GTS3.0 to enhance our enterprise value

Action Plan

① Biosimilars	② New Biologics & New Biotech Business (Cell therapy)
● Achieve sales plan by progressing current pipeline on schedule ● Develop new pipeline and find partners in a timely manner ● Pursue licensing out opportunities outside Japan	● Develop new pipeline, business seeds/scheme and find partners in a timely manner



-Growth-
②New Biologics & New Biotech Business (Cell Therapy)

-Stability-
①Biosimilars

GTS3.0 Direction :
More focus on Pediatric, Orphan, Intractable disease

- **Change the current situation in pediatric care in Japan**
  - ・Most of pharma seems to avoid stepping in this area due to the difficulty of clinical development, smaller market size, etc.
  - ・The number of drugs which have pediatric indication is limited
  - ・Social meaning is high to provide more drugs to pediatric and juvenile patients who will contribute to economic growth in the future

- **Develop wider and more comprehensive healthcare solution for pediatric patients, patients with orphan and intractable disease and their family and stakeholders**
  - ・Not only save the life of pediatric and juvenile patients with innovative drugs, by supporting their life after the cure, contribute to the total healthcare for all stakeholders surrounding patients

- **Leverage our project management style which has a high affinity to GTS3.0 direction**
  - ・Our virtual management style enables us to collaborate with various external stakeholders in R&D and manufacturing stage in a flexible way
  - ・Our project management style can facilitate more creation of new technology by leveraging the strength of each partner through collaboration

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striving for value creation